

## PRAXIS Working Paper No 6

### Financial Innovation in Estonia

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## Introduction

Financial Innovation (FI) can be defined as positive changes in financial intermediation or financial system: in financial institutions (commercial banks, insurance companies, investment and pension funds and investment banks) and in financial markets (stock market, debt instrument market and derivative market).

The aim of FI is to make different services (loans, deposits, investment fund units, debt instruments, shares, derivatives for risk management, currency exchange, payments and etc.) offered by financial system cheaper and more available for clients and to increase their quality, which is an assumption for a long run sustainable growth of economy. As a result of FI the financial system's ability to fulfil following functions will improve:

1. To determine the market price of financial instruments and in case of shares this is the measure of companies' success in their field (*financial markets*).
2. To guarantee liquidity for instruments (*financial markets*).
3. To be a source of companies' capital (loans, new stock and debt issues).
4. To encourage savings and investments (risk-taking) through risk sharing and diversification (investment funds, pension funds).
5. To offer risk management products (derivatives and insurance).

FI covers (Frame, W.Scott; White, Lawrence. J, 2001):

1. Usage of new financial intermediation methods, foundation of new financial institutions, changes in legislation or financial supervision,
2. Changes in services (new deposits and loan products, derivative instruments, insurance and investment products),
3. Changes in business processes, which lead to higher efficiency inside the organisation, cost savings and expansion of markets. For example implementation of computers, new software (accounting, management) and internet.

The result of FI is the financial system's stage of development: how available the different financial products and services are for customers and what is the price, choice and quality of these services.

The aim of current article is to study FI in Estonian financial system: what kind of important changes are taking place, what has positive and negative impact on FI and what is the state's role (government) in supporting FI in financial institutions and markets. We will also explore the role of financial markets in Estonian economy (financial intermediation) and which factors impede development in financial markets.

## **1. The Factors Affecting Financial Innovation and Their Importance**

All companies and most private people need financial services. FI enables us to make real economy more efficient through making financial services more available and reducing their prices. Financial products of high quality promote savings, increase investment profits, and lower the risks related to the usage of financial services.

The benefits financial innovation can provide are (Frame, W.Scott; White, Lawrence. J, 2001):

- Avoiding regulations and optimizing taxes.
- Reducing transaction costs and increasing liquidity of market-based products.
- Reducing agency costs between executive management and shareholders and between shareholders and creditors. For example usage of convertible bonds and warrants.
- Reducing informational asymmetry between corporate insiders (majority shareholder/executive management) and outsiders (creditors, minority shareholders).
- Increasing risk sharing opportunities (derivatives, investment funds).

In real life market participants are often subjects to asymmetric information. That is the case in Estonia also. Asymmetric information refers to a situation in which a company's management is holding information about the firm, which is superior to the information that outsiders have about this company. The problem of asymmetric information arises in stock market.

The benefit of FI enables us to make risk-sharing and capital intermediation more efficient and cheaper for clients.

What motivates FI? The aim of FI is to earn profit (additional economic value) for the innovator, providing premises for the company's competitive advantage. The speed of FI is determined by following factors on company level:

- The market power;
- The size of a company. Estonian financial institutions are relatively small which impedes FI (investments to R&D) but at the same time it gives more flexibility in innovative activity;
- Technological facilities;
- The demand for financial services and clients' knowledge and ability to use innovative products;
- The professionalism of financial specialists in offering and managing new products.

The following environmental conditions have also an effect on FI's speed:

- Technological development;
- Macroeconomic conditions (economic growth, interest rates and exchange rates);
- Tax legislation (if different revenues are taxed differently, it induces finding possibilities to optimise tax burden);
- Changes in legislation;

- Increasing financial risks: interest rate risk, stock price risk, exchange rate risk. This is regarded as the most important motivator of the growth of derivative market (Walmsley 1988).

Hereafter I will study the different factors, which have affected FI in Estonia more detailed.

The result of FI depends on competition (market power). In case of perfectly competitive market structure, the effect of FI is eliminated for the innovator due to heavy competition. Innovation is in that case beneficial for clients (users of new products) as they benefit from the cheaper, new high quality products. In that case financial institutions are not motivated to innovate because they do not earn economic value added by innovation. To encourage innovation patents are used to protect innovations and to motivate investments to innovation, which gives the innovator an opportunity to earn monopolistic profit during a certain period. In Estonia it is impossible to patent financial innovations. The subject of an invention can be equipment, process, material, including biological material, or a combination of these (EV Patendiseadus, <http://www.epa.ee/pat/patact.htm>).

In case of monopolistic competition, the monopolist is motivated to innovate as competition does not eliminate economic value added at once (Allen, Gale 1995). Monopoly enables increasing prices of new higher quality services and absence of competition makes it possible. But it is not that beneficial for clients because prices are high and it does not make the service available for everybody. In that case innovation helps the monopoly to earn monopolistic profit. We have an oligopolistic competition in Estonian financial system, which means that bigger financial institutions have a certain authority to adjust prices in the market. In that case financial companies in Estonia wish to capture temporary profits (economic value added) in an oligopolistic financial system that stimulates financial innovation in Estonia. Already in 1967 Schere and Kamien and Schwarts in 1978 have argued that in oligopolistic industries firms compete by innovating. Firms can gain a temporary advantage by developing new products, and this allows an increase in their profits until their competitors can imitate the innovation (Allen, Gale 1995; Kalvet, T., Kattel, R. 2002).

At first I studied FI in Estonian financial institutions in the second chapter and after that FI in financial markets.

## 2. Financial Innovation in Estonian Financial Institutions

I studied FI in Estonia proceeding from following aspects:

- What are the most important current trends in financial innovation in different areas of financial activity?
- What are the latest innovations in different areas of financial activity, in offering new products, improving outstanding services and business processes?
- What kind of factors have induced and impeded FI in different areas of financial activities?
- What role do financial institutions expect the state to play in promoting and supporting FI in Estonia?

Conducting the study I interviewed and inquired 11 persons from different financial institutions in Estonia, who helped me accomplish the study (including HEX Tallinn, 2 investment firms, 3 commercial banks, 1 investment fund, 2 insurance companies, 1 insurance broker). The results of the questionnaire are pointed out in generalized manner. Although the selection is small we can still consider it representative due to a small number of institutions.

### 2.1 Financial Innovation in Estonian Commercial Banking

In this questionnaire I asked the persons mentioned above to estimate the importance of different FI trends in commercial banking on the scale 1-5 (1- not important; 5 very important). In the table 1 the number of commercial banks on the scale of importance of different financial innovation trends is pointed out.

Table 1

	1	2	3	4	5
New services		1 (small bank)			2
Important changes in outstanding services		1 (small bank)	1		1
Important changes in business process		1 (small bank)		1	1

*Source: composed by the author according to the questionnaire*

FI is by 3 different aspects much slower in small Estonian commercial banks than in bigger banks. Smaller commercial banks are due to their littleness and financial constraints are much less able to invest to innovation. Due to a smaller number of clients, many new products or improvements simply do not pay off or do not serve as an additional value. Their service structure is therefore more stable and classical and changes are minimal. In bigger commercial banks development of new products is regarded as a bigger priority, which will guarantee competitive advantage and make business process more efficient, which makes offering services cheaper and increases their quality.

As a result of FI in commercial banking and due to high market concentration in commercial banking (85% of the market belongs to 2 bigger banks) new products

have been created and business processes have been made more efficient, but these services have not become much cheaper for clients. FI has done more to improve the performance of commercial banks than to make them cheaper and more available for clients. But choice of services and quality has improved most.

### **2.1.1 New Services in Commercial Banking**

A large amount of new innovations is related to development of internet environment. For example Hansapank came out with *Telehansa.net*, which is an internet environment for business clients, where companies can get essential financial information, to ensure themselves against currency risk (spot-, forward and swap transactions) and to manage short-term investments. Clients have to conclude a *traderoom* agreement for this purpose. Companies can easily combine *Telehansa.net* with their accounting programmes. Hansapank has also developed *Hanza.net* (internet environment that is meant for private clients), which contains useful information about different fields for private clients. There is also an intense collaboration with the public sector (Tax Office, Health Insurance Fund). Eesti Ühispank has made a contribution to develop internet environment of services and information for business clients (*U-Net Business*) and for investors (*U-Net Investor*). In order to meet the competition smaller banks have also established their internet banking (for example Eesti Krediidipank in 2001).

Hansapank, Sampo Pank and Eesti Ühispank have in collaboration with Eesti Mobiiltelefon developed the mobile payment service during last year, in order to make payments more comfortable and to decrease a need for cash payments.

Bigger commercial banks have during 2001-2002 launched their internationally acceptable credit cards, which serve as alternatives for internationally well-known credit cards (VISA, Euro/Mastercard). Hansapank was the first to launch its EGO credit card and Trump card (free repayment). Later on, other banks have also launched their own credit cards (Eesti Ühispank has MAGNET card and Sampo Pank has Sampo credit card). A lot of payment facilities are related to these credit cards, in order to make usage of these cards more attractive. These cards have a competitive advantage comparing to international cards, because it is easier to obtain them. Terms are more flexible. The usage of bankcards makes it possible to reduce relative importance of cash payments, which is more costly for the banks.

Commercial banks have offered an e-bill service through which bills are sent to client's internet mailbox.

In addition to that, in 2003, banks will launch a new SIM-STK service in collaboration with EMT. That is a new mobile telephone SIM card, where services with short numbers are already included in the menu. The client has to choose for example BANK – ACCOUNT INFORMATION, which starts a short- number mobile service.

### **2.1.2 Important Changes in the Existing Services**

Different bank services have been made more understandable and transparent and their application has been made easier.

Commercial banks have continuously improved transaction environment for securities (cheaper, more information, favourable trading account for active traders). This has been induced by a competition with investment firms.

Loan products have been made more flexible for clients. Banks try to approach clients more subjectively. As a result of implementing the Law of Obligation Act, the terms of financial contracts became more favourable for clients, which protects their interests. The new law changed the order of calculating the fines for a delay in a payment, loan repayment order and limited the fine rate for an early termination of contracts to 1 month's interest payment.

Hansapank has offered structured bonds (for example for Sonera, Ericsson, Nokia, Lietuvos Telekomas share). These securities make it possible to earn a certain percentage of capital gain and to limit liability (risk). The interests on securities are not taxed, which is a great advantage comparing to analogous products offered by investment firms (tax rate 26%).

Commercial Banks have dropped non-profitable products and services (for example Amex credit card).

### **2.1.3 Important Changes in Commercial Banking Business Processes**

The changes in the business process are aimed at an increasing efficiency of a financial institution, reducing the costs of the services and an expansion of markets.

Now the new approaches to the clients of the commercial banks will be explored:

The banks have been guiding the clients to new channels (internet bank, telephone bank). The importance of Direct Debit has increased in payments and that lowers the need for costly cash transactions. Cash can be deposited to ATM. According to the data issued from the Bank of Estonia, the amount of transactions and the turnover of bankcards has increased more than twice during last 3 years (Bank of Estonia, <http://www.ee/epbe/statistika>).

Hansapank has worked out a new conception of client segment (key client), which enables them to communicate more effectively and personally with 40000 most important clients. Purpose is to offer these clients an additional value and a better service. Eesti Ühispank has chosen to focus on services for small enterprises in its product innovation. Small and medium size enterprises form 75% of all Estonian companies. The aim is to launch products with standard terms for these clients, which enables them easily to orientate in financial services (Eesti Ühispank, [www.eyp.ee](http://www.eyp.ee)).

The banks have also promoted package-selling. For example leasing firms offer their products in this way (Hansa Capital Group offers XL, XXL packages), which is clearer for clients and makes it easy to orientate.

Changes in organisational processes:



Commercial banks have given a lot of attention to the development and improvement of risk management systems (financial risks and operational risks), which helps to improve their sustainability and ensures the banks against excessive risk losses. This also supports the banks' confidentiality.

The banks have increased their workers' decision-making authority in order to make decision-making processes quicker and more effective. The commercial banks have liquidated duplicating posts.

Hansapank has increased the decision-making authority of the "forefront" workers in order to make the client service more flexible. Hansapank has paid a lot of attention to Latvian and Lithuanian projects in order to extend its market share in the Baltic States. The bank has centralised IT administration and is also applying knowledge sharing over the 3 Baltic States.

The commercial banks have made the offering process of many services more effective and easier for the clients.

#### **2.1.4. Fostering and Impeding Factors of Financial Innovation in Commercial Banking**

In the questionnaire I studied fostering and restraining factors of FI in Estonia in a scale from -3 to +3 (-3 – has restrained FI, 0- has had no impact, +3 – has fostered FI much). The results are given in table 2, where there is pointed a out number of commercial banks and the impact of different factors.

Table 2

<b>Effect</b>	<b>-3</b>	<b>-2</b>	<b>-1</b>	<b>0</b>	<b>+1</b>	<b>+2</b>	<b>+3</b>
Heavy competition in financial service market					1		2
Technological facilities		1 (small bank)				1	1
Demand for financial services and clients' ability to use innovations					1	1	
Workers' competence in offering and managing new products				1			2
Size of financial institution						2	1
Macroeconomic conditions (economic growth).					1	2	
Tax legislation (if different earnings are taxed differently)				2	1		
Legislation and financial supervisory				1	2		
Increase in financial risks (interest rate risk, currency risk).					2	1	

*Source: composed by the author according to the questionnaire*

In bigger commercial banks, FI was mostly promoted by heavy competition, professionalism of the workers, technological facilities and the size of the bank (a large amount of clients has supported the profitability of new investments in innovation). For small banks, the previously mentioned factors were less important and a clearly impeding factor was the limited technological facilities. Thus, the size of a commercial bank gives a clear competitive advantage in FI and in meeting the clients' needs. The impact of the legislation was considered relatively unimportant. The commercial banks that had pointed out new services as an important innovation trend, also considered the demand for new services and the clients' ability to use them as an important innovation factor.

Because of the high market concentration (the two biggest banks have 85% of the market) in commercial banking FI has generated new products and internal processes have been made more effective, but it has not led to a remarkable reduction of prices and therefore, the availability of financial services has not remarkably grown. FI has done more to improve the performance of commercial banks. For clients, mostly the quality and choice of services has been improved.

An innovative team was also mentioned as another fostering factor for FI. But as an impeding factor, the commercial banks have pointed out the sluggish IT support in launching new products as IT people are usually too busy.

Estonian commercial banks (and other financial institutions) have a relative competitive advantage in FI due to their littleness in Scandinavian context. Estonian financial system may in long-term become a leader among Nordic Countries in certain financial market segment, if we can use our advantage in flexibility and speed (as Luxemburg and Ireland), which enables us to react more rapidly to the clients' needs.

### **2.1.5 State's Role in Supporting Financial Innovation in Commercial Banking**

As the next step in the study I looked at the state's role in supporting and fostering FI in commercial banking.

Role of state should be primarily in working out legislation that contributes to sustainable growth of commercial banking, which promotes fair competition in different fields of financial activity and avoidance of overregulation that could impede FI.

So far the state's role in supporting and affecting FI in commercial banking has been quite remarkable:

- The launching of an ID card has been regarded as positive by commercial banks. As the next step, the banks expect the state to promote distribution of this card in order to get a critical scope of distribution. For the time being, the ID card's distribution is modest, but hopefully additional fields of application for the card will be found later. At the present time, ID card can be used in Hanza.net for person identification. The banks hope to extend the ID card's fields of application within financial services. ID card is a chip card, which is more secure and harder to copy. In principle it should be possible to substitute different bankcards with one ID card. According to the experts' estimations, ID card and bankcard will not

be united in near future, because of different card standards. ID can be used for digital signing of agreements on the internet ([www.pass.ee](http://www.pass.ee)).

- In order to foster entrepreneurship and housing loan market activity, there has been established KredEx foundation under the Ministry of Economy KredEx offers guarantees for export and housing loans in order to make these loans more available and to hedge against export risks ([www.kredex.ee](http://www.kredex.ee)).
- The state has promoted savings in commercial bank deposits by preventing from taxation of bank deposits. At the same time it has clearly restrained the development of investment banking (debt instrument market). I will look into that topic more detailed in chapter 2.2.
- The state should also support researchers' and students' exchange with other countries/universities by offering grants and scholarships for that purpose. This could be organised through Estonian Science Foundation or through Enterprise Estonia.
- The obscurities in the legislation where considered as a problem by the banks. For example capital leasing agreements are often concluded in operating leasing, which is more favourable in terms of taxation.
- The state has supported a project named "Look into the world", which is a joint project of Hansapank, Eesti Ühispank, Eesti Telekom and many other companies. The aim of "Look into the world" is to promote internet use in Estonia. This encourages the use of financial services on the internet. The project is financed by private capital. One of the project's missions is opening of internet stations and educating the users, which encourages the use of financial services on the internet ([www.vaatamaailma.ee](http://www.vaatamaailma.ee)).

## 2.2 Financial Innovation in Estonian Investment Banking

Investment banking services are provided both by commercial banks and investment firms in Estonia. Commercial banking has a competitive advantage in offering investment banking services, because of their wide arrange of clients and their disadvantage is their lower level of flexibility and speed in reacting to the clients' needs. Although the investment banks' clients are larger than average, it does not guarantee a sufficient demand on new services. Because of their lower level of flexibility, it is more time consuming to launce new products for the commercial banks. The investment banks have to be more aggressive in offering their services and in their reaction to the clients' needs.

In the questionnaire I asked the investment firms to estimate the importance of different FI trends in investment banking activity on the scale 1-5 (1- not important; 5 very important). The number of investment firms in order of importance of different financial innovation trends is given in table 3.

Table 3

	1	2	3	4	5
New services		1		1	4
Important changes in outstanding services			2	3	1
Important changes in business process				3	3

*Source: composed by the author according to the questionnaire*

Within investment banking which deals with financial markets (assets management, risk management products, brokerage, etc.) the innovation of new products and improving the efficiency in business processes was regarded as the most important FI trend.

Another field of investment banking deals with corporate finance services (companies' financing, *M&A*, security issues, venture capital, etc.) considered making business processes more efficient and changing outstanding services more important. Generating new services was considered less important.

### **2.2.1 New Services in Investment Banking**

Within fund management, establishment of the Pillar II pension funds has been a remarkable step in year 2002. Pillar II or Funded Pension consists of contributions of the state and the person to the individual pension account. Funded pension works in a simple way: 2% of your gross wage and 4% of the social tax is channelled to your personal pension account. The most popular among Pillar II pension funds has been Hansapank's pension fund (K3), which has an aggressive investment strategy (This fund is holding 25,6% of all fund investors' market). In October 31st in 2002 Hansa Pension funds had 104 616 clients, and 50,5% of the market ([www.pensionikeskus.ee](http://www.pensionikeskus.ee)). The market share of Eesti Ühispank's Second Pillar Funds is 28%.

Managing the pension funds, the investment banks collaborate with insurance companies in order to together create a synergy in exchange of competence and experiences. Some insurance companies, as Seesam Kindlustus (in collaboration with investment bank Alfred Berg) and Ergo Insurance (in collaboration with Trigon Capital) have also entered the pension fund market. They provide pension funds with different investment strategies for their clients and try to link investment and insurance products to one another (Ergo Kindlustus, [www.bico.ee](http://www.bico.ee)). For example Seesam Elukindlustus provides a fund agreement service that enables clients to invest savings into different investment funds. Comparing to a conventional funded pension plan, the fund agreement has several differences. When concluding this agreement the client determines the investment funds where his money is invested in. The investment value is determined by the value of the fund obligations, which are linked to the insurance contract and the client himself is responsible for the investment risk. Fund agreement can be connected to life insurance and other insurances (accident insurance, critical illness' insurance, disability insurance), (Seesam Kindlustus, [www.seesam.ee](http://www.seesam.ee)).

New possibilities for clients in order to make their liquidity management more flexible and profitable are being searched for. For example within assets management investment products are provided combined with payment services. Ühispanka Fondid offered a balancing service of money market fund, which enables the clients to use/invest free liquidity more effectively. The clients can make payments on account of money market fund if they currently do not have money on their own account. The currency account's surplus can be invested to this fund at the end of the day.

Commercial banks and investment banks provide investment funds with different investment strategies and risks, which are managed or intermediated by themselves for example Ühispanga Fondid offers SEB funds). Sampo Pank and Hansapank have brought USD Money Market Fund on the market. This fund is aimed at companies whose cash flow is largely in USD.

Trigon Capital provides a Central and Eastern European Fund, which is an open-ended equity fund. This fund aims at benefiting from capital appreciation of undervalued Central and Eastern European (CEE) companies. The Fund's investment region encompasses the EU accession countries (Trigon Capital, [www.trigon.ee](http://www.trigon.ee)).

The use of internet has helped to make stock markets available for clients. An investment firm LHV lately offered their clients an opportunity to trade on the internet with Scandinavian stocks and American stock options. LHV is now preparing to offer their clients an opportunity to borrow securities (short sales) on the internet. *Traderoom* offered by Hansapank can be used for trading currency options and foreign securities in Telehansa.net. This environment is aimed at corporate clients.

As a new derivative instrument Hansapank offers their clients commodity swaps, which are very popular.

### **2.2.2 Important Changes in the Existing Services**

The existing investment banking services have been made more available, easier to use and more flexible for the clients. For example Ühispanga Fondid offers a service of regular savings into funds using a standing order.

The clients' market orders in LHV will automatically be sent to the stock exchange on the internet, which means that the settlement occurs just after the transaction without any delay for the client and the share will be immediately transferred into the client's portfolio. That gives the client a chance to make prompt transactions in different markets over the world. Ten years ago it would have been impossible.

Changes within corporate finance division are related with changes in economic activity and cycles, which determine the need for corporate finance services (M&A, private equity raising, buyout, etc). Investment firms react quite flexibly to the needs of the market (firms). For example 5 years ago, the companies went public during a stock market boom, 3 years ago, the companies tried to find foreign strategic partners (M&A), but now private capital raising and buyouts dominate which is fostering the development of private equity funds. The funds offer financing in a combined manner: first buyout and after that extension capital. The funds offer also a venture capital, which amount is relatively small comparing to buyouts. The total amount of venture capital investments offered by Estonian venture capital firms is according to estimations 150 millions of Estonian croones.

### **2.2.3 Important Changes in Investment Banking Business Processes**

The investment firms try to make the processes within the firm more effective in order to reduce the costs and offer their services at lower prices. LHV has tried to offer lower prices to its clients in order to extend the amount of their clients. The small

organisation enables them a bigger flexibility in innovation, which makes them quicker than big commercial banks. Smaller investment banks are also more aggressive in risk taking than bigger commercial banks offering investment bank services.

The internal processes are being automated as much as possible. Many services have been made more available for the clients by offering the services on the internet. The enterprises develop investment portals where the investors can get information, participate in forums and make transactions ([www.lhv.ee](http://www.lhv.ee), [www.hanza.net](http://www.hanza.net), [www.unet.eyp.ee](http://www.unet.eyp.ee)). HEX Tallinn's (which consists of Tallinn Stock Exchange and Estonian Central Securities Depository) aim is also transferring the existing services to internet in stages.

Another important innovation has been offering the existing services on new markets, which provides for an expanded market and cross-border transactions in these markets (Trigon Capital). The development of investment banking and an expansion to new markets enables the enterprises to specialize more inside the institution, which should increase the quality of their services. A personal approach to the clients by investment firms is used more frequently.

#### **2.2.4. Fostering and Impeding Factors of Financial Innovation in Investment Banking**

In the questionnaire I studied the fostering and restraining factors of FI in investment banking on a scale of -3 to +3 (-3 – has restrained FI, 0- has no impact, +3 – has fostered FI much). The results are given in table 4, where there is given a number of investment firms and the impact of different factors.

Table 4

<b>Impact</b>	<b>-3</b>	<b>-2</b>	<b>-1</b>	<b>0</b>	<b>+1</b>	<b>+2</b>	<b>+3</b>
Heavy competition in financial service market				1	1	1	2
Technological facilities				1	1	1	2
Demand for financial services and the clients' ability to use innovations					3	1	1
Competence of the workers in offering and managing new products					1	3	1
Size of financial institution				1	1	2	1
Macroeconomic conditions (economic growth).			1	1	1		2
Tax legislation (if different earnings are taxed differently)		1	1	1	1	1	
Legislation and financial supervisory				3	1	1	
Increase in financial risks (interest rate risk, currency risk).	1		1	1		1	1

*Source: composed by the author according to the questionnaire*

FI in corporate finance services has been positively affected by macroeconomic circumstances, which have affected the demand for services and also the competence of the workers.

FI in financial market services (including assets management) has been positively affected by competition, technological facilities, the workers' competence, increasing financial risks and the size of a company.

IT can support the innovation in investment firms more operatively than in big commercial banks.

Investment firms have reproached the state with following when it comes to legislation:

1. There is a different taxation of interest on bank deposits (0% rate) and interest on debt securities issued by investment firms or companies (25% rate). Thus, accumulation of savings to bank deposits is fostered and investments to debt security market is restrained. This is, of course favourable for commercial banks, which are given competitive advantage in fund raising. This is one of the important reasons why investors are not interested in investing in investment banking. The income from deposits, debt instruments, investment fund obligations and shares should be treated equally in terms of taxation.
2. Estonian Commercial Code §237 restricts the amount of preferable shares (maximum 1/3 of share capital), therefore it is difficult to take companies into possession by issuing preferable shares (a financial investor would earn a fixed dividend), (<https://www.riigiteataja.ee/ert/act.jsp?id=229982>). The executive management would have common shares. This kind of a structure would motivate the executive management to build up the company and financial investments. This restriction restrains the use of leverage buy-out as a new service for taking companies into possession by financial investors. Leverage buy-out is company takeover, which is financed with loan. Leverage buy-out should foster foreign investments in Estonian companies, which are small or have just started business.
3. So far, it has been impossible to establish real estate investment funds and *hedge* funds due to legal restrictions. The *hedge* funds are usually aimed at professional investors with specific investment view, willing to take bigger risks. The hedge funds' portfolio may be focused on one or two fields of economic activity with good potential to grow (for example information- or biotechnology) and invest in venture capital funds. The funds may, as a rule, use different derivative instruments or financial leverage with lower restrictions.
4. HEX Tallinn reproached the state with the need to reconstruct the system in a way that the detailed and technical regulation which used to be covered by law would be covered by decrees which are easier to change when necessary. HEX Tallinn also complained about high state bureaucracy, which does not avail entrepreneurship.

The yet non-performing Law of Digital Signature was considered a problem. This concerned also commercial banking. Digital signature would make it much easier to use on-line financial services and sign contracts on the internet. The standard of

digital signature has been established according to the Law of Digital Signature. At the present moment the identification standards in banks and government institutions are different and they are being levelled now.

### **2.2.5 State's Role in Supporting Financial Innovation in Investment Banking.**

Next, I found out how the state is expected to support FI in investment banking.

The state plays an important role in supporting and affecting the FI through legislation and tax policy. According to Jason Grenfell-Gardner who is the Chairman of the Board in Trigon Capital (Partner), it is quite easy to establish and take into possession companies in Estonia comparing to other CEE countries.

The most efficient contribution to investment banking during the last couple of years has been the fostering of Second Pillar pension funds' functioning and thus the fostering of accumulation of long-term savings. Tax advantages and additional investments to Second Pillar pension funds by the state have motivated investing in pension funds. It is very important to motivate people to save more and to fund their own future pension by themselves. The funded pension is based on preliminary financing. A working person is saving for his pension, paying 2% of the gross salary into the pension fund. In addition to the 2% that is paid by the person himself, the state adds 4% from the current social tax that has been paid by the employee. By October 31st, 2002, 207,200 people had joined the funded pension system ([www.pensionikeskus.ee](http://www.pensionikeskus.ee)). About half of all the potential joiners have made the decision to join the funded pension funds in the year 2002 (the 1st year of the reform), which has made the implementing of this system a success. It shows the clients' confidence in Estonian financial system.

Because of the accumulation of long-term savings, the development of the funded pension funds may also stir up the Estonian stock market (if Tallinn Stock Exchange can offer more attractive listed companies), which should improve the liquidity and efficiency of the stock market. At present, Tallinn Stock Exchange has only a few attractive listed companies for the pension funds. This is not enough for portfolio diversification. According to the estimations, the total amount of pension funds should be 1 billion crores by the end of 2003. According to analyst Raivo Sormunen's opinion, about half a million crores should additionally be invested in Tallinn Stock Exchange ([www.pensionikeskus.ee](http://www.pensionikeskus.ee)).

The state has made an important contribution to the development of venture capital business by supporting preliminary and applied research of technological and innovative projects and offering support for product development through Enterprise Estonia. This should increase both the supplying of high quality projects (products) and the venture capital providers' interest in investing into venture capital projects in start-up or expansion stages ([www.eas.ee](http://www.eas.ee)).

## **2.3 Financial Innovation in Estonian Insurance**

In the questionnaire I asked the insurance firms to estimate the importance of different FI trends in investment banking on the scale of 1-5 (1- not important; 5 very



important). In the table 5, the number of insurance firms and the importance of different financial innovation trends are given.

Table 5

	1	2	3	4	5
New services			1	2	
Important changes in outstanding services				1	2
Important changes in business processes				1	2

*Source: composed by the author according to the questionnaire*

The insurance companies' priority was to improve the existing products and make the internal processes more efficient in order to earn larger return for the shareholders. The innovation of new products has been more modest in the insurance companies. The insurance companies need to earn money using the existing services and want to invest less into new products. The loss insurance portfolio has developed on the basis of reinsurance products and these products have been transferred to Estonian insurance market.

### 2.3.1 New Services in Insurance

New insurance products are related to pensions: for example fixed return Third Pillar pension funds and Second Pillar pension funds with different investment strategies.

ERGO Insurance provides private health insurance. Salva Insurance offers insuring lottery winnings. Some insurance companies also offer credit risk insurance. But the insurance portfolio has still been quite stable for the last four years.

### 2.3.2 Important Changes in the Existing Services

Insurance, investment and commercial banking products are increasingly being offered jointly. It is quite common to offer insurance products together with investment products. Insurance products are sold together with products of commercial banking (for example loan and leasing bound with insurance).

Simplifying the insurance products and making them more transparent has been an important trend. Insurance companies have tried to make loss treatment more operative and understandable for the client. They are also trying to approach their larger clients more flexibly.

The clients can conclude insurance agreements on the internet. For example insurance broker E-Kindlustus provides on-line ([www.e-kindlustus.ee](http://www.e-kindlustus.ee)) services of all insurance companies.

### 2.3.3 Important Changes in Insurance Business Processes

Risk management systems have been made more effective (especially in the field of operational risks) during the last couple of years.

Insurance companies and commercial banks use cross-selling offering their products.

### 2.3.4 Fostering and Impeding Factors of Financial Innovation in Insurance

In the questionnaire I studied the fostering and restraining factors of FI in insurance on a scale from -3 to +3 (-3 – has restrained FI, 0- has had no impact, +3 – has fostered FI much). The results are given in the table 6, where the number of insurance firms and the impact of different factors is pointed out.

Table 6

Impact	-3	-2	-1	0	+1	+2	+3
Heavy competition in financial service market				1		1	1
Technological facilities	1					2	
Demand for financial services and clients' ability to use innovations	1					2	
Competence of workers to offer and manage new products		1			1		1
Size of financial institution				3			
Macroeconomic conditions (economic growth).		1			1		1
Tax legislation (if different earnings are taxed differently)		1	1				1
Legislation and financial supervisory		1	1				1
Increase in financial risks (interest rate risk, currency risk).				3			

Source: composed by the author according to the questionnaire

The FI in insurance has been promoted by heavy competition, technological facilities, competence of employees and macroeconomic conditions.

The existing products satisfy the needs of the clients. It is quite hard to work out new products because the clients' awareness and demand is usually low.

The insurance companies also noted that an excessive regulation by supervisory authority has impeded FI.

### 2.3.5 State's Role in Supporting Financial Innovation in Insurance

The insurance companies regarded the state's role to be the provider of stable economic conditions that foster a stable development. The legislation should be clear, understandable and not too restrictive. Different insurance companies interpret the Law of Obligation Act differently. For instance, when does the insurance contract come into force? So far, there have not been any precedents in court.

Also, the problems in licensing insurance brokers were mentioned.

### **3. Financial Innovation in Financial Markets. The Financial Markets' Role in Estonian Economy and Financial Intermediation**

Next, I explored the FI in financial markets and the financial markets' role in Estonian economy. To what extent does Tallinn Stock Exchange (TSE) fulfil its aims and what kind of possibilities are there to increase TSE's efficiency. What could be the future role of commercial banks in financial intermediation?

#### **3.1 Efficiency of Estonian Stock Market and Improvement Possibilities**

Next, I studied the efficiency of Estonian stock market and its role in financial intermediation in Estonia and the factors that impede the development of Tallinn Stock Exchange. TSE was established in 1996 and is now operating under HEX Tallinn. HEX Tallinn includes TSE, where the stocks and privatisation vouchers are traded and Estonian Central Depository for Securities (ECSD) that runs the register of securities, the registration of security ownership, loans and pledges, and the processing and clearing of security transactions (HEX Tallinn, [www.hex.ee](http://www.hex.ee)). TSE is using HEX's trading system and has thus established an integrated trading environment for securities listed in Finnish and Estonian exchanges. Besides TSE's security brokers, also members of HEX can trade with securities listed in TSE.

The stock market's informational efficiency indicates its quality or ability to adopt new essential information concerning listed companies. According to the efficient market hypothesis an efficient capital market is one in which the prices of traded securities always fully reflect all publicly available information concerning those securities. Capital markets efficiency enables the issuers to obtain funds at a cost that reflects the risk of the business activities being undertaken and the investors to pay a fair price for the shares they are buying.

In order to obtain stock market efficiency the following premises have to be fulfilled:

- A lot of investors of speculative type interested in trading with shares. By 01.12.2002 only 14 123 security accounts in Estonia had listed companies in TSE, from which only a small part belonged to active speculative traders. In order to make TSE more effective the number of investors should be much higher.
- The turnover should be sufficient to enable the stock prices to adopt new public information quickly. In Estonia, a lot of investors have based their orientation on trading on foreign stock markets (NYSE, NASDAQ and Nordic exchanges), which offer more attractive stocks in terms of issuers' transparency and market liquidity. Foreign stocks have become more available for Estonian investors during last years (trading costs have decreased and investors have more information about foreign markets).

- Public information about issuers is given through certain channels (the stock exchange's information system) and it is available for all investors at the same time. Thus, insider trading should be avoided.
- All investors and traders have the same transaction costs.

TSE's informational efficiency was recently tested by Katrin Rahu at Tallinn Technical University in her master's dissertation "Efficiency Testing of TSE" the efficiency was tested using data from the period 03.06.1996 - 25.02.2002.

We have to distinguish two main forms of market efficiencies: weak efficiency and semi-strong efficiency. Rahu tested the weak efficiency using statistical tests of independence between the return rates that should normally be distributed. Kolmogorov-Smirnov test for normality and runs-test was used. The results of this test show, that TALSE's return rates and shares are not normally distributed. We cannot therefore confirm that Tallinn Stock Exchange has been efficient in weak form, but its efficiency has improved during this period.

The semi-strong efficiency asserts that security prices adjust rapidly to the release of all public information. Katrin Rahu analyzed how the security prices adjust to the release of new public information, as an efficient market should do. The results of this analysis showed that the market seems to be efficient regarding share pricing.

As a result, she concluded that TSE is not yet efficient, but it is clearly moving towards efficiency.

As a reason of TSE's low efficiency, the author points out the low liquidity of overall market due to the speculative investors' insufficient interest in the 14 listed companies in TSE. The daily turnovers in 2002 have been on the average 57 million crores, from which 2/3 have been larger OTC transactions. The main TSE turnover (85%) comes from trading with shares of Hansapank (70%), Eesti Telekom (9%) and Norma (6%). The rest of the shares are not actively traded.

What could promote the trading activity in TSE and improve the market liquidity and efficiency:

1. Motivating new "high quality" issuers to list their shares in TSE. That would improve the diversification in TSE and the market liquidity.
2. The development of Second Pillar pension funds increases money supply for the stock market.
2. One possibility would be establishing a joint Baltic Exchange that could increase the foreign investors' and new issuers' interest. TSE in its present form will probably not be competitive and attractive for issuers and investors in long-term perspective. Another possibility would be transferring the trading with shares of Estonian issuers into a separate HEX list.
3. Making companies more transparent, investor relations more active in order to decrease the informational asymmetry between investors and executing

management/majority investor. According to HEX Tallinn regulations (HEX Tallinn, [www.hex.ee](http://www.hex.ee)) an issuer is obliged to give following information:

- a. Financial reports,
- b. Changes in statutes
- c. Changes in executive management and auditors,
- d. Changes in address and location
- e. About transactions with own shares
- f. About court procedures concerning the issuer

Thus, TSE reveals information about the issuer, which is important, but clearly insufficient for the minority shareholders in order to evaluate the stock value.

In order to improve the quality of the information about the listed companies, the author would expect more future-orientated information about the company's value drivers (expected or targeted growth of turnover, expected growth rate of total market, expected or targeted profit margins, planned future investments, planned financing and dividend policy, etc.). The above-mentioned value drivers affect the generating of free cash flow in the future and therefore have an impact on the shareholder value. The company's value depends on its ability to generate free cash flow in the future. M&A transactions need more explanation from the issuers: what is the M&A transaction's economic effect on the company's different value drivers (value added). Revealing of future-orientated information by the issuer is voluntary in TSE. The issuers in TSE should reveal more future-orientated information about value drivers that have essential effect on the company's value. At the present time, the listed companies in TSE do not feel sufficient pressure from TSE and the issuers are also not interested in revealing future-orientated information about their value drivers.

When informing the investors, the listed companies' managements often consider the interests of minority shareholders less than those of the majority shareholders. Usually only the majority shareholders of the listed companies have important information about value drivers. The minority shareholders have a marginal affect on the companies' managements.

To be listed in TSE is of course expensive and bothersome, which is why companies are not motivated to be listed in TSE. TSE does not give sufficient economic effect, as expected of an efficient stock market (stock market as a source of financing, a guarantee for stock liquidity, etc.). The majority of issuers can easily manage without TSE.

This can be regarded as a "vicious circle". The issuers are not motivated to be listed in TSE, because it does not meet their expectations. TSE has to motivate the issuers to be listed. The investors on the other hand are insufficiently motivated to trade due to the above-mentioned reasons.

Value-based management in the interest of the shareholders presumes that the executive management has an explicit value management strategy in order to increase the shareholder value. In order to improve the value-based management and the evaluation of the company's performance, the listed companies in TSE could implement (and reveal) more economic value added (EVA) measure, which could improve managing the listed companies' value creation through different targeted value drivers. The listed companies could also make more use of the Balance

Scorecard for strategic and balanced value management through 4 value creation perspectives: financial, innovation, internal process and customer.

There are of course other objective reasons why TSE is small, non-effective and not liquid:

- Concentrated ownership structure of listed companies restricts free float,
- Shortage of high quality listed companies in Estonia,
- A lot of investment alternatives or competition between stock markets. The shares in different foreign stock markets are almost as available as the shares traded in TSE. Commercial and investment banks intermediate different foreign investment funds, too. This promotes the international diversification of Estonian portfolio investments.
- The role of pension and investment funds in offering money to stock market has been quite unimportant, so far. The majority of fund market consists of money market funds and bond funds, because companies are using these funds for short-term liquidity management. The development of pension funds in Estonia should increase people's propensity to save and investment awareness and should bring new money on the market.
- Fear to invest in stock market. People are quite averse to stock market risks.

### **3.2 Estonian Debt Instrument Market and Securitization of Commercial Banking**

25 different debt instruments issued by banks/companies are traded in Estonian bond market. The daily turnovers are unsteady, but on the average they make up around 10-15 million crores. The total amount of outstanding debt instruments is over 2 billion crores. Mostly, only 2-3 transactions are made in a day, which explains the unsteady turnover. Most of the transactions are made in a way delivery versus payment in OTC market. In most cases, money market funds, bond funds and commercial banks invest in debt instruments. Individuals' and companies' role in bond trading is very small. Individuals and companies invest in the bond market through different funds. The most active bond instrument traders on OTC secondary market are bond funds and commercial banks.

Trading in Eurobond market is becoming more active, because these instruments have become more available for Estonian funds (lower fees and narrower bid-ask price differences) and the differences between the returns on Eurobonds and Estonian bonds are no longer remarkable. It is also possible for Estonian investors to trade with Estonian Government Eurobonds with 5% coupon yield.

What has restrained the development of debt instrument market in Estonia?

- Different taxation of interest on bank deposits and bonds.
- The commercial banks' low interest in developing the debt instrument market. It is often possible to obtain financing for bigger and stronger companies in an amount of around thirty million crores through private placement, which is even cheaper and more flexible than taking a loan from a commercial bank. Commercial banks are not very interested in arranging private placements for big and valuable loan clients, because they probably earn higher margin on

loan than on arrangement fees of bond issues. Commercial banks do not want to lose an important basis of income.

- Big companies are often not aware of the possibility to ask for bond issues. The issuer's possible fear of public interest could also be one an obstacle. The issuers have to be more transparent for many investors (for market). They have to prove their reliability and quality of financing projects. In case of bank loan only the crediting commercial bank is interested in the company and the private relationships between the banker and the company's CEO are often decisive.
- The bond investors' money supply is more unstable than the money supply from banks. Thus, the risk of bond refinancing is higher than the risk of loan refinancing. But still, the demand for bond issues is as a rule higher than the supply.
- Public bond issues are more expensive and time-consuming comparing to loans, and as the majority of savings and money supply for bonds is concentrated in commercial banks and investment funds, the public bond issues are not popular. The private investors' low awareness of and low confidence in bonds also restrains public bond issues. The investors prefer investing in investment funds, which guarantee diversity and higher liquidity of the investments. As long as institutional investors remain major money suppliers in the bond market, the secondary bond market performs as an OTC market and the bond issues are directed to institutional investors. There is no need for bond trading in TSE.

During the last 20 years the trend in financial market based economic model has been securitization of commercial banks' assets. This presumes a liquid and effective bond market. As a result of securitization of bonds that are actively traded in secondary market are collateralized by banks' assets (loans and real estate). There has not been such securitization in Estonia, so far. What has been the obstacle for securitization in Estonia?

One obstacle for securitization is relatively small, not liquid and not effective bond market for such debt securities. Estonia's economic model is similar to that in Continental-Europe, where the role of financial markets (including bond market) in financial intermediation is relatively unimportant. That makes the issued debt securities not liquid and therefore not attractive for potential investors (funds, companies). In order to promote the development of securitization, the investors should have more confidence in the bond market. Market itself should be more liquid and effective. Another problem is the shortage of good loan projects, which could earn a higher return than the interest on issued debt securities. There are also competitors within this kind of securitization scheme, and these would be money market funds, which have an advantage, as they guarantee liquidity for their obligations. The bond market obviously could not offer competitive liquidity for the issued debt securities, which are collateralized by banks' assets.

The securitization of assets can be fostered by development of bond market in Estonia, as a result of which the market could fulfil its tasks better. But it may take a lot of time. The securitization could make the use of money, accumulated in commercial banks, more effective. It enables the banks to release a part of the capital, which is under loans, to increase the return and to make the liquidity management

more flexible. Bonds, which are collateralized by assets, have been indicated in the commercial banks' off-balance sheet accounts.

The state's role in promoting the development of the bond market could be abolishing bond discriminating taxation and fostering the commercial banks' investments in the bond market.

### **3.3 Derivative Market and Usage of Derivative Instruments**

The following chapters include:

- A short description of Estonian OTC derivative market.
- Usage of interest rate (IR) and exchange rate (ER) derivatives in Estonian non-financial companies.

#### **3.3.1 Estonian derivative market**

Estonian derivative (options, swaps, forwards) market operates as an OTC market. Transactions are made between commercial (investment) banks or between banks and their corporate clients. In addition to that, banks intermediate derivative transactions to foreign derivative markets.

During the last three years (from the end of 1998 till the end of 2002), the amount of derivatives written by commercial banks in Estonia has decreased (in 30.09.2002 16 billion crores). It has occurred due to the decrease (-30%) in the demand for currency derivatives since the implementation of Euro in 1999, which lowered foreign exchange exposure of Estonian companies and financial institutions. The total amount of currency derivatives written by commercial banks in Estonia was 9,7 billion crores (Eesti Pank, [www.ee/epbe/statistika](http://www.ee/epbe/statistika)). The implementation of euro had mainly positive effect on Estonian companies that made FIM-based transactions with Finnish partners. At the same time, the use of interest rate derivatives has increased twice and a half (up to 5,7 billion crores). It proves that innovation in the field of financial risk management products (derivatives) is mostly driven by risk volatilities. Higher the risk, the higher the demand for hedging with derivatives. During the last 3 years, after the stock market crash in TSE, the use of equity and stock market index derivatives has also increased (up to 775 million crores), but their total amount remains up to 5% of the total amount of outstanding derivatives.

Possibilities to develop the derivative market in Estonia:

1. Derivatives should be on electronic accounts just as other securities (stocks and bonds) in Estonia. This process could be forced by the state. So far, the derivative transactions are confirmed only on paper, which can arise many legal questions. Derivatives on electronic accounts would provide more active trading on secondary OTC derivative market.
2. Equity derivative market should be made more transparent, which would decrease the market makers' power on oligopolistic derivative market. The participants on the market would be better informed about transactions and the best bids and asks. Investment firm LHV has made a certain step towards transparency, quoting bid-ask prices of Estonian listed companies' (Eesti Telekom, Hansapank ja Norma) options on the internet.



3. Trading with derivatives is not regulated or supervised by the state or by the exchange (derivatives are not traded in TSE). In that respect, the state could take more active position to regulate the derivative market.
4. It would be worth to consider starting trading with TSE index options and futures in HEX Tallinn, which could lower the transactions' credit risk and increase market transparency.

### **3.3.2 Usage of interest rate (IR) and exchange rate (ER) derivatives in Estonian non-financial companies**

IR and ER risks are the main financial risks that non-financial companies have to face. Theoretically, companies in open and small transition countries (including Estonia) should benefit the most from hedging activity, because of more difficult access to international financial markets, higher financing costs and higher growth potential. Competent IR hedging activity adds value to the companies and guarantees a sustainable growth of the companies. Therefore it is crucial for Estonian companies to manage IR and ER risk well.

Studying the usage of ER derivatives, I selected in total 200 importers and exporters that were according to Estonian foreign trade statistics considered the largest by the beginning of 2001. There were totally 164 companies, because 36 of the selected companies were large importers and exporters. I got back 58 filled questionnaires, which means that the response rate was 35,8%. As I was studying the ER risk policy, I selected only those companies that had their own attitude (policy) towards ER risk. There were 46 such companies. The study was based on the period from 1998 till the end of 2000.

Studying the usage of IR derivatives, I selected 200 largest (according to the amount on the balance sheet) Estonian non-financial companies. The research was carried out during August and September of 2001. The study was based on a 3-year period from the beginning of 1998 until the end of the year 2000. We received 44 responses and the response rate was 22.5 %.

The results indicated that 74% of the companies hedge ER risk. In comparison to that, the interest rate risk was hedged by 75% of all companies. Estonian companies are clearly averse to these financial risks.

Mostly, the ER and IR risk was hedged only from time to time and selectively. Thus, the ER and IR risk hedging is mostly speculative and profit-orientated. Hedging decision usually depends on the financial director's view on ER and IR future movements. Companies hedge in that case some certain ER predictions that could have a negative impact on company's performance (Lessard and Nohria 1990). Companies believe that they are able to systematically predict IR and ER future movements, which conflicts with the efficient market hypothesis. If we assume that currency markets and capital markets are efficient, then any predictions and speculations on those markets are useless and they do not add value to companies (Glaum 2000). Thus, ER and IR risk hedging policy should stipulate the extent of hedging, not the timing of hedging.

I studied the usage of ER and IR risk derivatives for hedging. Derivatives (mainly plain vanilla forwards, swaps and options) are used as ex-balance sheet (external) methods for ER and IR risk hedging.

As we can see in the table 7, forwards and swaps were the most frequently used ER risk derivatives, but swaps and forwards were the most frequently used in case of IR risk hedging. In total, 66% of the hedgers used ER derivatives, which is more than in the case of IR risk hedging.

Table 7

Usage of derivatives for ER risk and IR risk hedging in Estonian companies

	<i>Forward</i>	<i>Swap</i>	<i>Options</i>	<i>Other derivatives</i>	<i>Usage of derivatives</i>
% <i>ER hedgers</i>	46%	29%	10%	10%	66%
% <i>respondents of ER study</i>	32%	20%	7%	7%	46%
% <i>IR hedgers</i>	24,2%	30,3%	3%	-	45%
% <i>respondents of IR survey</i>	23%	18,5%	2,5%	-	34,8%

*Source: the author's calculations*

To give a comparison, according to a study by Bodnar and Gebhardt (1998), 44,8% of American and 74,6% of German companies used ER derivatives. In case of interest rate derivatives, these indicators were 43% and 69%.

Next, we explored the frequency of derivatives' use. Only 30% of the companies that used derivatives used them frequently (in case of interest rate derivatives it was 13%). Comparing to other countries, derivatives are used more rarely in Estonia. Thus, I can conclude that the interest in derivative usage among Estonian non-financial companies is high, and many companies hedge with derivatives from time to time, but they do not use them frequently. Further, I tried to find some explanations for the rare derivative usage.

We let the corporations estimate the relative importance of different reasons on a scale from one to five, "one" indicating not important, "five" very important. Additionally, we asked whether some specific reasons were important or not. This way I could place the reasons for rare ER derivative usage in order of importance (the order of important reasons for rare usage of IR derivatives are in brackets):

- 1) Preference of on-balance sheet ER risk hedging methods (2)
- 2) ER rate risk is not important (1)
- 3) Derivatives are too expensive (3)
- 4) Little knowledge and experience in the field of derivatives (4)
- 5) The parent company is responsible for ER risk management (6)
- 6) The size of a minimum transaction is too big (5)
- 7) Derivatives are prohibited in the company (7)

The results accord with the conclusions from other studies (McRae et al. 1980, Hakkarainen et al. 1998) which conclude companies prefer using on-balance sheet

methods and secondly hedge remained ER and IR net position, using derivatives that are more flexible, but expensive and complicated instruments for hedging.

In conclusion, we can say that companies find derivatives too expensive and they still have little experience on that field. The author hopes that derivatives are becoming more available and familiar for Estonian non-financial companies during the financial innovation process.

We also found out, that most of the companies need more additional know-how in the field of IR and ER derivatives and risk management. Still, the ER risk management competence was higher than the interest rate risk management. Commercial banks have continuously trained companies within this field.

### 3.4 Financial Markets' Role in Estonian Economy and Financial Intermediation

Financial markets have following economic tasks to complete as cheaply as possible:

- Guaranteeing liquidity for financial instruments.
- Objective pricing of financial instruments (firm value), which gives an objective evaluation of company performance.
- Being a source of funds for companies and the state.
- Offering financial risk management products (derivatives)
- Corporate governance over listed companies.

The role of financial markets in economy and financial intermediation depends on the markets' ability to fulfil their functions. Estonian financial markets are still unable to fulfil these functions as expected due to their littleness, low liquidity and low efficiency. Competition with commercial banks is also an important factor, why many financial services are better provided by banks. Commercial banks can use their market power and dominant position in financial intermediation. Another important factor is that the clients are more confident in the banks than in the financial markets and they are more aware of the commercial banks' services than the instruments of financial markets.

Due to the financial markets' role in financial intermediation, we can distinguish an Anglo-Saxon and a Continental-European economic model. Below, in the table 8, there is a short description of economic models on the basis of different criteria.

Table 8

**Comparison of Anglo-Saxon and Continental-European economic model**

	Continental-European economic model	Anglo-Saxon economic model
<b>Important role in controlling the companies</b>	Commercial banks	Financial markets
<b>The companies' mission</b>	Company value is shared as a compromise between creditors, workers and shareholders. Trade Unions have greater importance in the company's activity.	The company's mission is to maximise the shareholder value

<b>The major source of financing for the companies</b>	Commercial banking	Financial markets
<b>The shareholders' structure</b>	Less diversified. Major owner has great importance in the company's management. The minority shareholders' interests are less protected and taken into account. The majority and minority investors' interests are often different.	Diversified between different portfolio investors (pension funds, investment funds, insurance companies, etc.). All the investors' are financial investors.
<b>Protection of the minority shareholders' rights</b>	Worse	Better
<b>Investor relations</b>	Passive	Active
<b>Pricing of financial products</b>	The prices are determined by the banks in an oligopolistic competition. Commercial banks have a competitive advantage in pricing the products.	The prices of many standardised products are determined by the financial market. The standardised products compete with products offered by commercial banks.

*Source: Composed by the author*

Estonia has more similarities with the Continental-European economic model. But still, it is possible that in a long perspective Estonia will come closer to the economic model based on financial market.

### **What are the circumstances that refer to the similarities between the Estonian and the Continental-European economic model?**

Many companies have finished listing in TSE (Eesti Ühispank, Sampo Pank, Eesti Näitused, ESS, etc.). The stock market's importance in financial intermediation and in corporate government is marginal. HEX Tallinn does not fulfil all of its functions upon the issuers and is not attractive enough for the minority and majority shareholders. The market participants are therefore more confident in commercial banks, which have developed through a longer period. The financial markets have therefore a disadvantage in competition with the commercial banks.

The stock market's role in economy is also indicated by the ratio of total market capitalisation to GDP, which is according to the author's estimation 38%-39% in Estonia, while this indicator is 5 times higher in the countries (USA, UK, Sweden, Finland) with more market based financial and corporate government system.

The major financing sources are loans from commercial banks and the major equity capital comes from strategic investors (closed companies). Only a small amount of companies have issued commercial bonds. New stock issues have been bought through private placement by predetermined financial institutions. There is no need for public stock and bond issues.

Only a few listed companies have made maximising the shareholder value their official goal. In many cases the listed companies have not formulated their mission.

The owners of Estonian listed companies are usually 1-3 core strategic investors who control the company's activity. *Free float* of stocks is according to estimations only 15-25% of the shares. Large stock ownership concentration is accompanied with a greater risk (hazard of agency conflict) for minority investors in a listed company. The interests and purposes of minority (portfolio investors) and majority (strategic) investors can often be different.

### **What circumstances refer to moving towards a market based economic model in Estonia?**

Commercial banks try to avoid shareholdings that not related with financial activity. These shareholdings have been inherited from borrowers, who have got into financial troubles. The banks try to deal efficiently with financial activity, in which they have a competitive advantage.

Many large Estonian companies are controlled by foreign listed companies (Finland, Sweden, etc.). Therefore these companies indirectly communicate with financial markets through a parent company (obtaining financing, aiming the company's activity).

### **Author's future vision.**

As the market-based economic model is becoming more dominant in Finland and Sweden, it should have an influence on Estonian economy as well, through the investments that have been made into Estonian companies and through an integration to the Nordic countries' economy. Companies are governed according to the rules of value-based management and their activity is aimed at maximising the shareholder value. This is a long process and it takes time. The financial markets' role (the author does not necessarily keep in mind the Estonian financial markets) will be more important in Estonian economy. The commercial banks continue competing with the investment banks to service mostly small and medium size companies, which are unable (it is not profitable) to enter the markets. By the end of December 2002, the investors from Sweden, Finland, UK and USA were holding over 70% of the total market capitalisation in TSE (<http://www.hex.ee>). In these countries the market-based financial system is clearly dominating.

According to the author's opinion, the economic model in Estonia could in a long perspective (5-10 years) be moving towards a market-based system, but due to its openness and littleness and high internationalisation level, it is more likely to be moving towards an international financial market-based system. Estonian companies have been listed in stock exchanges through foreign parent companies, which has an impact on the companies' corporate governance and financing sources. Estonian economy will have only a few independent and strong listed companies also in the future.

Estonian economy should be more influenced by international institutional investors (investment-, pension funds, investment firms, insurance companies) and financial markets.

## Summary

During the recent years, Estonian financial system has passed through a rapid development in offering new financial products, improving the availability of existing services and in making the financial institutions' internal processes more efficient.

The FI has been especially speedy in larger commercial banks. The FI was mostly promoted by heavy competition, the workers' competence, technological facilities and the size of a bank. Due to high market concentration in commercial banking, the FI has resulted in the creation of new products and more efficient internal processes, but the prices of services have not decreased for the clients. The FI has mostly helped to improve the performance of commercial banks. Still, the quality and choice of services has also improved a lot. One of the impeding factors in commercial banks is slow support of FI by IT.

Estonian commercial banks (and other financial institutions) have, due to their small size, bigger flexibility and mobility in the FI. This is their competitive advantage upon the Nordic banks. The state's role should be primarily working out a legislation, which promotes a sustainable growth of commercial banking. This would foster a fair competition between different fields of financial activities. The state should avoid over-regulation, which impedes the innovation. So far, the state has had a remarkable role in supporting the FI in commercial banking, launching an ID card (which should give an effect in long perspective), through the foundation Kredex and through avoiding the taxation of interests on deposits.

In the author's opinion, the FI has made large step in investment banking (pension funds, improving the availability of international financial markets through internet). The FI in corporate finance services has been positively affected by the workers' competence and macroeconomic circumstances, which have affected the demand for services. The FI in financial market services (including fund management) has been positively affected by competition, technological facilities, the workers' competence, increasing financial risks and the size of a company.

Investment banking has promoted the innovation of new services. The commercial banks' competitive advantage in providing the products of investment banks is their large client basis, while the advantage of investment banks is their flexibility and ability to react quickly to the clients' needs. The investment banks' IT is able to support the innovation of new products more flexibly. The legislation was reproached with discriminating taxation of interests on bonds, comparing to bank deposits and excessively restraining factors within legislation. There were also complaints about the Law of Digital Signature, which is not functioning as expected. The state's most efficient contribution to supporting the investment banking has recently been fostering the establishment and activity of Second Pillar pension funds and as a result of these people's propensity to save. Concerning the developing of venture capital business, the state has made an important contribution by supporting preliminary and applied research of technological and innovative projects and offering support for product development through Enterprise Estonia.

Insurance companies' priority was improving the existing products and making the internal processes more effective in order to earn higher return for shareholders.

Innovation in new products has been more modest in the insurance companies. The FI within the field of insurance has been promoted by heavy competition, technological facilities, the employees' competence and macroeconomic conditions. The insurance companies also noted that an excessive regulation by supervisory authority has impeded the FI.

Problems with legislation were also mentioned (the Law of Obligation Act and licensing of insurance brokers).

I also explored the problems with development of Estonian financial markets. There are objective reasons for TSE's low efficiency and liquidity, which come from the listed companies' ownership structure, deficiency of high quality listed companies, heavy competition between different investment alternatives, pension funds' and equity funds' relatively small importance in financial intermediation and money supply, the individuals' little knowledge about investment business and their fears concerning stock and bond market since the stock market's crash in 1997.

According to the author's opinion, the trading activity in TSE can be promoted, and could improve the market's liquidity and efficiency by:

- Motivating new "high quality" issuers to list their shares in TSE, which would improve diversification in TSE and the market's liquidity.
- Developing the Second Pillar pension funds increases money supply for the stock market.
- Establishing a joint Baltic Exchange that could increase the foreign investors' and new issuers' interest. In a long perspective, the TSE in its present form will probably not be competitive and attractive for the issuers and investors. One possibility would be transferring the trading with Estonian issuers' shares into a separate HEX list.
- Making issuers more transparent through improving the quality of public information, which would decrease the investment risk for minority shareholders.

The Estonian OTC type of debt instrument market is small and not very active. The development of debt instrument market in Estonia has been restrained by:

- Different taxation of interests on bank deposits and bonds,
- The commercial banks' insufficient interest in the development of debt instrument market.
- Big companies are often not aware of the possibility to ask for bond issues.
- Smaller refinancing risk of bank loans than risk of bond refinancing.
- The private investors' little knowledge and low confidence also restrains public bond issues. The investors prefer investing into investment funds, which enables them to diversify and improves the liquidity.

On the derivative market, IR and ER derivatives are actively traded in order to hedge. Equity derivatives are less traded with. The author suggests following in order to develop the derivative market:

- To register derivatives on electronic accounts, just like other securities (stocks and bonds) are being registered in Estonia.

- To make the derivative market more transparent, which could decrease the market makers' power on an oligopolistic derivative market.
- The state should regulate trading with derivatives more precisely. In that respect the state could take more active position regulating the derivative market.

It would be worth considering starting trading with TSE index options and futures in HEX Tallinn, which could lower the transactions' credit risk and increase the derivative market's transparency.

The most important reasons for the companies' rare use of ER and IR derivatives for hedging, was the derivatives being too expensive and the companies still have little knowledge and experience using these instruments.

The financial market's role in Estonian economy is still marginal and the markets are not able to compete with commercial banks providing financial services. The financial markets are unable to fulfil their functions as expected, due to their littleness, low liquidity and efficiency. In most cases, commercial banking can provide financial services cheaper and with higher quality. The clients' trust in commercial banks and their knowledge about using these services is also higher. That is why Estonia has more similarities with Continental-European economic model. But in the author's opinion, it is still possible Estonian small and open economy will become, during the process of internationalisation and integration, similar to financial market-based economic model. Although, this might take a lot of time. Larger companies will communicate with financial markets more frequently, either independently or through foreign parent companies, and their performance will be more closely related to the markets.

**The author would like to give the state some suggestions in order to foster the FI in Estonian financial system:**

1. To create conditions for a fair competition between different fields of financial activity. The state should not confine itself to promoting the competition inside commercial banking, investment banking and insurance.
2. To put an end to different taxation of interests on bank deposits and debt securities issued by investment firms or companies.
3. To foster commercial banks' investments in debt instrument market using financial regulations, which would increase their motivation to underwrite debt instruments.
4. To change the Commercial Code §237 restrictions to issue preferred shares (so far, the maximum is 1/3 of share capital), which makes it difficult to get a hold of companies issuing preferred shares.
5. To make establishing of hedge funds legal.
6. To organize the licensing of insurance brokers.
7. Derivative instruments should be on electronic accounts and trading with derivatives should be regulated. In this respect, the Financial Supervisory should take more active position. This would be precondition for a more active secondary market of derivative instruments.
8. To foster the exchange of students and scholars and financial innovation studies through offering expedient grants and scholarships.



**Additionally, the author would like to give some advice to HEX Tallinn:**

1. One possibility to make investing in TSE more attractive would be establishing a joint Baltic Exchange that could increase the foreign investors' and new issuers' interest. In long perspective, TSE will probably not be competitive and attractive for the issuers and investors in its present form. Another possibility would be transferring trading with shares of Estonian issuers into a separate HEX list.
2. In order to make the issuers more transparent and decrease the risk of investments, the quality of public information should be improved. It should concern more future-orientated information about the companies' value drivers.
3. It would be worth to consider starting trading with TSE index options and futures in HEX Tallinn, which could lower the transactions' credit risk and increase the market's transparency.

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